

REMARKS

In accordance with the foregoing, the drawings have been amended, and the specification has been amended to improve form and provide improved correlation with the drawings and claims. Claims 1, 4-5 and 8 have been amended, and claims 1, 4-9 and 11 are pending and under consideration. No new matter is presented in this Amendment.

OBJECTIONS TO DRAWINGS:

In the Office Action, the Examiner objected to the drawings. In order to overcome these objections, replacement figures are submitted herewith. The sheet containing FIG. 2a replaces a portion of the original sheet that included FIG. 2a. Fig. 2a is now placed on a separate sheet, is labeled as a REPLACEMENT SHEET and as PRIOR ART, and shows that the output from Fig. 2a leads to the Enhanced Reactor, Fig. 2b. The sheet containing FIG. 2b replaces a portion of the original sheet that included FIG. 2b. Fig. 2b is now placed on a separate sheet, is labeled as a REPLACEMENT SHEET, and shows that the output from Fig. 2a, the prior art reactor, is received by Fig. 2b. Approval of these changes to the Drawings is respectfully requested.

REJECTIONS UNDER 35 U.S.C. §112:

Claim 8 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 is properly dependent on claim 7 as presented, not claim 5. Claim 8 has been amended to show the proper dependency on claim 7. Applicants respectfully submit that this amendment fully addresses this rejection. Withdrawal of the rejection is requested.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 1, 4-9, and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Stephenson (U.S. Patent No. 6,866,835) in view of Schora et al. [sic, should be Huebler et al.] (U.S. Patent No. 3,442,620).

With respect to independent claim 1, the Examiner has asserted that it would have been obvious to combine the teachings of Stephenson with respect to the first reactor with the teachings of Huebler with respect to the second reactor. The Examiner has further asserted (with respect also to dependent claim 4) that Huebler requires (discloses) a catalytic surface.

The Examiner has also asserted (with respect also to dependent claims 7 and 8) that Stephenson discloses a semiconductive material. The Examiner has further asserted (with respect also to dependent claim 11) that the references suggest a surface reaction. Finally, the Examiner also asserts that claim 1 must recite a structure, not a function.

Applicants respectfully traverse these rejections. First, there is no motivation to combine Stephenson with Huebler. In particular, Huebler discloses the steam-iron process, but the claimed invention, at paragraphs 0018-0021, criticizes the steam-iron process for poor efficiency and production of unwanted by-products. Therefore, one ordinarily skilled in the art would not have combined a steam-iron process (e.g., Huebler) with the disclosure of Stephenson to reach the claimed invention. There is also no suggestion either in Stephenson or Huebler or the two references taken together to combine two reactors in a way that the output of the first reactor feeds the second reactor as the sole energy input to the second reactor. Second, Huebler does not disclose a catalytic process as asserted by the Examiner in his rejection of dependent claim 4. The Examiner's citation is to Huebler's abstract, which only cites to the regeneration of iron after its oxidation. However, this is not by itself a catalytic reaction. The dictionary definition of catalyst (see several entries in www.dictionary.com) is a material that accelerates a process, and that is not disclosed or suggested in Huebler. There is also no reference in Stephenson to a catalytic reaction, so none is disclosed or suggested in the cited art. Third, the Examiner asserts, in his rejection of dependent claims 7 and 8, that the disclosure in Stephenson, in view of Huebler, discloses a semiconductive material such as gallium or gallium oxide. These are not, per se, semiconductive unless further treated or combined, and there is no other disclosure or suggestion of semiconductor behavior in Stephenson or Huebler. Finally, there is no disclosure or suggestion in Stephenson or Huebler of a surface reaction as recited in dependent claim 11. In sum, there is no suggestion or teaching in Stephenson or Huebler to combine the two references. .

The Examiner has also rejected independent claim 1, as well as dependent claims 6, 9 and 11, as claiming function rather than structure. Applicants have further amended independent claim 1 to emphasize structure. Currently amended independent claim 1 is now patentable.

In addition to the arguments, above, about dependent claims 4, 7-8 and 11, Applicants also point out that dependent claims 5-6 and 9 depend on independent claim 1. Therefore, dependent claims 5-6 and 9 are deemed patentable.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.

FORMAL AMENDMENT:

Claims 4 and 5 have also been amended for punctuation, specifically to insert commas before the word "wherein" in the first line of each claim.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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